AMENDMENT

OFFERED BY MR. SENSENBRENNER OF WISCONSIN

Page 9, after line 11, insert the following new paragraph:

(18) NASA's temperature records substantially overlap with the records of the Climate Research Unit (CRU) at the University of East Anglia. The integrity of the CRU's dataset was compromised by the Climategate e-mail scandal.

Page 62, after line 20, insert the following new section:

SEC. 304. REPORT ON TEMPERATURE RECORDS.

Not later than one year after the date of enactment of this Act, the Administrator shall issue a report to Congress detailing the extent and degree to which NASA's temperature records overlap with the records at the Climate Research Unit at the University of East Anglia, the reasons for and sources of that overlap, and the possibility that NASA's temperature records have been compromised.

AMENDMENT

OFFERED BY MR. LUJÁN OF NEW MEXICO

Page 11, lines 1 through 7, strike "of which $1,000,000" and all that follows through "development platforms".

Page 14, lines 4 through 6, strike "of which $1,000,000 shall be for the Commercial Reusable Suborbital Research project".

Page 94, lines 5 through 8, strike "potential use of commercial reusable suborbital flight vehicles, once demonstrated and proven successful on an operational basis" and insert "use of commercial reusable suborbital vehicles".

Page 96, lines 5 through 15, strike subsection (d) and insert the following:

(d) IN GENERAL.—The report of the National Academy of Sciences entitled "Revitalizing NASA's Suborbital Program: Advancing Science, Driving Innovation and Developing Workforce" found that suborbital science missions were critical to building an aerospace workforce capable of meeting the needs of current and future human and robotic space exploration.

(e) MANAGEMENT.—The Administrator shall designate an officer or employee of the Space Technology Program to act as the responsible official for the Commercial Reusable Suborbital Research Program in the Space Technology Program. The designee shall be responsible for the development of short-term and long-term strategic plans related to the use of commercial reusable suborbital vehicles to support NASA's requirements for competitively-selected science, technology demonstration, and educational activities.

(f) ESTABLISHMENT.—The Administrator shall establish a Commercial Reusable Suborbital Research Program within the Space Technology Program that shall fund the development of competitively selected payloads for scientific research, technology development, and education, and shall provide flight opportunities for those payloads to microgravity environments and suborbital altitudes that meet the requirements of such investigations. The Commercial Reusable Suborbital Research Program may fund engineering and integration demonstrations, proofs of concept, or experiments for commercial reusable vehicle flights, once the vehicles have met the requirements consistent with subsection (h). The program shall coordinate with NASA's Mission Directorates to help achieve NASA's research, technology, and education goals.

(g) REPORT.—The Administrator shall submit a report annually to the Congress describing progress in carrying out the Commercial Reusable Suborbital Research program, including the number and type of suborbital missions planned in each fiscal year. The plan and assessment described in subsections (a) and (b) shall be transmitted to the Congress not later than 1 year after the date of enactment of this Act, before the transmittal of which the Administrator shall not be constrained in the execution of this section.

(h) INDEMNIFICATION AND LIABILITY.—The Administrator shall not proceed with a request for proposals, award any contract, commit any United States Government funds, or enter into any other agreement for the provision of a commercial reusable suborbital vehicle launch service of a NASA-sponsored payload or spaceflight participant until all indemnification and liability issues associated with the use of such systems by the United States Government shall have been addressed and the Administrator has provided to the Congress a report describing the indemnification and liability provisions that are planned to be included in such contracts or agreements.

AMENDMENT

OFFERED BY MR BROUN

Page 18, line 18, through page 24, line 7, strike sections 104 and 105.

Page 98, line 24, through page 99, line 4, strike ", and $5,000,000 in fiscal year 2014" and all that follows through "140 meters in diameter".

AMENDMENT

OFFERED BY MR. OLSON OF TEXAS

Page 25, line 4, insert ", including spacesuit development and related life support technology," after "enabling systems".

Page 30, line 13, insert ", including spacesuit development," after "exploration program".

AMENDMENT

OFFERED BY MS. KOSMAS OF FLORIDA

On page 30, after line 14, insert the following (and redesignate subsequent provisions accordingly):

(d) NASA LAUNCH SUPPORT AND INFRASTRUCTURE MODERNIZATION PROGRAM FOR THE RESTRUCTURED EXPLORATION PROGRAM.—

(1) IN GENERAL.—The Administrator shall carry out a program to prepare infrastructure at the Kennedy Space Center that is needed to enable processing and launch of the elements of the restructured exploration program, including simplifying vehicle interfaces and other ground processing and payload integration areas to minimize overall costs, enhance safety, and complement the purpose of this section.

(2) ELEMENTS.—The program required by this section shall include—

(A) investments in support of the restructured exploration program to—

(i) improve processing and launch operations at the Kennedy Space Center;

(ii) enhance the overall capabilities of the Eastern Range; and

(iii) reduce the long-term cost of operations and maintenance;

(B) measures in support of the restructured exploration program to provide multi-vehicle support and improvements in payload processing; and

(C) such other measures in support of the restructured exploration program as the Administrator may consider appropriate.

(e) REPORT ON NASA LAUNCH SUPPORT AND INFRASTRUCTURE MODERNIZATION PROGRAM FOR THE RESTRUCTURED EXPLORATION PROGRAM.—Not later than 180 days after the date of enactment of this Act, the Administrator shall submit to the appropriate committees of the Congress a report on the plan for the implementation of the program authorized in subsection (d).

Page 47, beginning on line 3, amend section 231 to read as follows:

SEC. 231. 21ST CENTURY SPACE LAUNCH COMPLEX INITIATIVE.

(a) PURPOSE.—Funding authorized in title I for the 21st Century Space Launch Complex Initiative shall be available to carry out the following activities:

(1) Investments to improve civil and national security operations at the Kennedy Space Center and Cape Canaveral Air Force Station to enhance the overall capabilities of the Eastern Range and to reduce the long-term cost of operations and maintenance.

(2) Measures to provide multivehicle support, improvements in payload processing, and partnering at the Kennedy Space Center and Cape Canaveral Air Force Station.

(3) Measures to support the restructured exploration program.

(4) Such other measures related to launch support and infrastructure modernization at the Kennedy Space Center as the Administrator may consider appropriate to carry out NASA's launch operations.

(b) REPORT ON THE 21ST CENTURY SPACE LAUNCH COMPLEX INITIATIVE.—

(1) REPORT REQUIRED.—Not later than 60 days after the date of enactment of this Act, the Administrator shall submit to the appropriate committees of the Congress a report on the plan for the implementation of the 21st Century Space Launch Complex Initiative.

(2) ELEMENTS.—The report required by this subsection shall include—

(A) a description of those initiatives tied to the restructured exploration program;

(B) a description of proposed initiatives intended to be conducted jointly or in cooperation with Cape Canaveral Air Force Station, Florida, or other installations or components of the United States Government; and

(C) a timetable for carrying out activities and initiatives planned for the 21st Century Space Launch Complex Initiative.

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AMENDMENT

OFFERED BY MR. PETERS OF MICHIGAN

Page 31, after line 17, insert the following:

(d) RADIATION RESEARCH ON NON-HUMAN PRIMATES. —

(1) IN GENERAL.— The Administrator shall transmit to the Congress not later than 12 months after the date of enactment of this Act a report on prior radiation research on non-human primates and the justification and rationale for any additional research involving non-human primates.

(2) CONSULTATION.—In preparing the report, the Administrator shall consult with other Government agencies that have previously conducted radiation research on non-human primates.

AMENDMENT

OFFERED BY MS. KOSMAS OF FLORIDA

Page 31, line 21, strike "The Administrator" and insert "(a) IN GENERAL.—The Administrator".

Page 32, after line 3, insert the following:

(b) VEHICLE AND COMPONENT REVIEW.—

(1) IN GENERAL.—In carrying out subsection (a), the Administrator shall—

(A) conduct an in-depth assessment of all essential modules, operational systems and components, structural elements, and permanent scientific equipment on board or planned for delivery and installation aboard the ISS, including both United States and international partner elements, to determine anticipated spare or replacement requirements to ensure complete, effective, and safe function and full scientific utilization of the ISS; and

(B) provide the completed assessment to the Congress within 90 days after the date of enactment of this Act.

(2) REQUIREMENTS OF ASSESSMENT.—The results of the required assessment shall include, at minimum, the following:

(A) The identification of spare or replacement elements and parts currently produced, in inventory, or on order, and the state of readiness and schedule for delivery to the ISS, including the planned transportation means for such delivery. Each element identified shall include a description of its location, function, criticality for system integrity, and specifications regarding size, weight, and necessary configuration for launch and delivery.

(B) The identification of anticipated requirements for spare or replacement elements not currently in inventory or on order, a description of their location, function, criticality for system integrity, the anticipated cost and schedule for design, procurement, manufacture and delivery, and specifications regarding size, weight, and necessary configuration for launch and delivery, including available launch vehicles capable of transportation of such items to the ISS.

(C) The identification of spare or replacement parts existing or planned that due to size, weight, and launch configuration can only be carried to the ISS by the Space Shuttle.

(3) COMPTROLLER GENERAL.—The Administrator shall enable the Comptroller General to monitor and, as appropriate, participate in the assessment required by paragraph (1) in such a way as to enable the Comptroller General to provide to the Congress an independent review of the assessment.

AMENDMENT

OFFERED BY MR. SENSENBRENNER OF WISCONSIN

Page 36, line 3, insert "Before relying on ISS partners to upmass or downmass cargo, the Administrator must certify to Congress that no United States or commercial cargo resupply capabilities are available." after "Space Shuttle is retired.".

AMENDMENT

OFFERED BY MS. KOSMAS OF FLORIDA

Page 43, after line 16, insert the following (and redesignate subsequent provisions and conform the table of contents accordingly):

SEC. 221. CONTINGENT AUTHORIZATION OF ADDITIONAL SPACE SHUTTLE MISSION.

(a) SENSE OF THE CONGRESS.—It is the sense of the Congress that it is very important, in view of the extension of the life of the ISS until at least 2020, for the Shuttle fleet to leave the ISS in the best possible configuration for the post-Shuttle era and that NASA should take all necessary steps to ensure the continued viability of the ISS in the event that there are delays in the delivery or inability to deliver critical parts and supplies once the Shuttle is retired.

(b) CONTINGENT AUTHORIZATION OF ADDITIONAL SHUTTLE MISSION BEYOND THE PLANNED MANIFEST.—The Administrator is authorized to conduct 1 additional Space Shuttle mission to the ISS beyond the missions contained in the flight manifest as of February 1, 2010, if—

(1) the Administrator determines that an additional Space Shuttle mission is a useful and nec-

essary step to reduce risks to the operation and utilization of the ISS that are associated with the retirement of the Shuttle fleet; and

(2) the conditions in subsection (c) have been met.

(c) CONDITIONS.—In order to comply with subsection (b), the Administrator shall determine and certify that all of the following conditions have been met:

(1) The importance of conducting the additional Space Shuttle mission to the ISS outweighs the risks associated with conducting a Shuttle mission without a backup Shuttle launch-on-need capability.

(2) Any actions resulting from safety inspections and reviews required by NASA's Orbiter Modification Down Period (OMDP) and other safety guidance have been successfully addressed.

(3) Workarounds addressing mandatory OMDP requirements, if any, have been identified and the associated risks have been characterized.

(4) The Aerospace Safety Advisory Panel has reviewed the safety issues associated with the additional Shuttle mission as well as NASA's plans to mitigate any identified risks.

(d) CONTINGENT AUTHORIZATION OF APPROPRIATIONS.—In the event that the additional Shuttle flight to

the ISS is authorized, funding for the incremental costs associated with the additional mission is authorized as follows from within funds authorized in title I:

(1) For fiscal year 2011, $700,000,000, to be taken in the amounts specified below from within the funding for the following accounts and transferred to the Space Shuttle account:

(A) $175,000,000 from the International Space Station account, except that at least $50,000,000 shall remain available for fundamental and applied space life and physical science and technology research.

(B) $525,000,000 from the Restructured Exploration Program account.

(2) For Fiscal Year 2012, $200,000,000, to be taken from within the funding for the International Space Station account and transferred to the Space Shuttle account, except that at least $50,000,000 shall remain available for fundamental and applied space life and physical science and technology research.

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AMENDMENT

OFFERED BY MR. WU OF OREGON

Page 45, line 18, insert "that takes into account geographical diversity," after "competitive procedure".

AMENDMENT

OFFERED BY MR. WILSON OF OHIO AND MS. FUDGE OF OHIO And Mr. Wu of Oregon

Page 46, lines 3 and 4, strike "either the launch, flight operations, or processing of".

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AMENDMENT

OFFERED BY MR. MATHESON OF UTAH

Page 60, after line 10, insert the following new subtitle:

Subtitle F—General Provisions

SEC. 251. USE OF PROGRAM FUNDS.

For all programs authorized under this title, authorized funds may be obligated only for performance of the programs.

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AMENDMENT

OFFERED BY MS. EDDIE BERNICE JOHNSON OF TEXAS

Page 72, line 3, insert "The Administrator shall transmit such plan to Congress not later than 1 year after the date of enactment of this Act." after "test facilities.".

AMENDMENT

OFFERED BY MS. FUDGE OF OHIO AND MR. WILSON OF OHIO

Page 73, line 2, strike "; and" and insert a semicolon.

Page 73, line 7, strike the period and insert "; and".

Page 73, after line 7, insert the following new paragraph:

(4) research, development, and demonstration of enabling technologies in support of future exploration missions.

AMENDMENT

OFFERED BY MR. WILSON OF OHIO

Page 75, line 9, insert "and students in rural schools" after "minority students".

AMENDMENT

OFFERED BY MR. LUJÁN OF NEW MEXICO

Page 77, lines 2 through 4, strike "(as defined" and all that follows through "1001(a)))" and insert ", with special consideration for minority serving institutions".

Page 79, line 23, through page 80, line 4, amend subsection (e) to read as follows:

(e) OUTREACH TO STUDENTS FROM UNDERREPRESENTED GROUPS.—The Administrator shall seek to ensure that program participants include minority and underrepresented groups, including students from a high-need local education agency as defined in 2102(2) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6602(3)).

AMENDMENT

OFFERED BY MS. EDDIE BERNICE JOHNSON OF TEXAS

Page 80, line 11, insert ", and recruit minorities that are underrepresented in STEM teaching" after "education and training".

AMENDMENT

OFFERED BY MS. EDWARDS OF MARYLAND

Page 83, after line 3, insert the following new section:

SEC. 604. HANDS-ON SPACE SCIENCE AND ENGINEERING EDUCATION AND TRAINING.

(a) PILOT PROJECTS.—

(1) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Administrator shall competitively select pilot projects that test and demonstrate new forms of collaborative and hands-on education and training projects related to aeronautics, exploration, science, space operations, and human spaceflight, that serve to stimulate and engage students in science and engineering, and that foster skills including engineering, teamwork, project management, and problem solving. In particular, the pilot projects shall emphasize engineering and technology-related education and training. The pilot projects shall include a breadth of activities that range in scope and complexity and shall also test and demonstrate selection, evaluation, mentoring, and related tools and services required to support

the projects. The program shall be directed at serving undergraduates. The Administrator may include broader participation from pre-collegiate and graduate students, as appropriate. To the extent practicable, the initiative shall also be accessible to NASA's young science, technical, and project management professionals.

(2) PROJECTS.—Pursuant to subsection (b), the pilot projects shall be carried out through competitive solicitations. The duration of a project awarded under the pilot program shall be no more than 4 years. The pilot projects program shall—

(A) include a range of projects of varying scope and complexity;

(B) provide participants with experience in areas such as—

(i) formulating, planning, designing, developing, testing and integrating, and operating mission or flight hardware;

(ii) systems engineering;

(iii) analyzing data from a mission or investigation; and

(iv) documentation, reporting, and reviews;

(C) include defined and measurable objectives;

(D) provide mentoring for participants;

(E) provide for evaluation of the project and documentation of the outcomes of the project and its contribution to education and training; and

(F) encourage outreach to and partnerships with universities, Federal agencies, private entities, and other institutions involved in student collaborations and hands-on training and education, including organizations that focus on engaging young girls in science and engineering hands-on education and training activities.

(3) EMPHASIS ON PARTICIPATION OF INDIVIDUALS FROM UNDERREPRESENTED MINORITY POPULATIONS.—The Administrator shall make it an emphasis of the pilot projects to seek the involvement of participants from underserved and underrepresented minority populations.

(4) FLIGHT OPPORTUNITIES AND ACCESS TO SPACE.—The Administrator shall ensure, to the extent practicable, the availability and accessibility of

platforms for flying and launching into space student's collaborative and hands-on projects.

(5) FORUM FOR PARTICIPANT PRESENTATIONS.—The Administrator shall organize a forum for students and other participants in the pilot projects to discuss and present their work, at an appropriate stage of the project, and to engage with other students and young professionals involved in ongoing collaborative and hands-on training activities related to space science and engineering, aeronautics, space exploration, and human spaceflight.

(6) WORKSHOP.—The Administrator shall organize a workshop or workshops involving the competitively-selected pilot project teams for the purposes of collecting information on the results of the pilot projects (including on selection, evaluation tools and mentoring services) and identifying lessons learned and best practices for NASA-supported collaborative and hands-on education and training projects.

(7) REPORT AND STRATEGY.—Not later than 3 years after the date of enactment of this Act, the Administrator shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report—

(A) on the outcomes of existing student collaborative and hands-on projects such as those being conducted as part of NASA's science programs;

(B) on the results of the pilot projects; and

(C) on best practices of NASA's student collaborations and hands-on education and training activities.

The report shall define decision criteria, a strategy, and a process for extending successful projects or transitioning them into an ongoing, competitive program.

(b) INFORMATION EXCHANGE.—The Administrator shall support mission directorates sponsoring student collaborative and hands-on education and training projects in exchanging information, sharing knowledge, and leveraging activities, as appropriate.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Administrator such sums as may be necessary for fiscal years 2011, 2012, 2013, and 2014 to carry out this section, to remain available until expended.

AMENDMENT

OFFERED BY MS. FUDGE OF OHIO AND MR. WILSON OF OHIO

Page 83, after line 17, insert the following new subparagraph:

(C) OTHER CONSIDERATIONS.—The strategy shall also include an assessment of modifications needed to maximize usage of facilities that offer unique and highly specialized benefits to the aerospace industry and the American public.

AMENDMENT

OFFERED BY MR. ROHRABACHER OF CALIFORNIA

Page 98, after line 12, insert the following new subsection (and redesignate the subsequent subsections accordingly):

(c) REAFFIRMATION OF POLICY WITH RESPECT TO THREATS POSED BY NEAR-EARTH OBJECTS.—The Congress reaffirms the direction set forth in section 804 of the National Aeronautics and Space Administration Authorization Act of 2008 (42 U.S.C. 17794) that directed the Director of the Office of Science and Technology Policy by October 15, 2010, to—

(1) develop a policy for notifying Federal agencies and relevant emergency response institutions of an impending near-Earth object threat, if near-term public safety is at risk; and

(2) recommend a Federal agency or agencies to be responsible for—

(A) protecting the United States from a near-Earth object that is expected to collide with Earth; and

(B) implementing a deflection campaign, in consultation with international bodies, should one be necessary.

AMENDMENT

OFFERED BY MR. ROHRABACHER OF CALIFORNIA

Page 98, after line 12, insert the following new subsection (and redesignate the subsequent subsections accordingly):

(c) ARECIBO OBSERVATORY.—Congress reiterates its support for the use of the Arecibo Observatory for NASA-funded near-Earth object-related activities. The Administrator shall coordinate with the Director of the National Science Foundation to ensure the availability of the Arecibo Observatory's planetary radar to support these activities.

AMENDMENT

OFFERED BY M'Carl

At the end of the bill, add the following new section:

SEC. 910. SENSE OF CONGRESS.

It is the sense of Congress that NASA shall endeavor to carry out, to the extent feasible and technologically possible, the top recommendation from the decadal survey in each mission area.

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AMENDMENT

OFFERED BY MR. SENSENBRENNER OF WISCONSIN AND MR. MILLER OF NORTH CAROLINA

At the end of the bill, add the following new section:

SEC. 910. ETHICS PROGRAMS IN THE OFFICE OF GENERAL COUNSEL.

(a) REAFFIRMATION OF RESPONSIBILITIES OF COUNSEL.—The legal staff of the Office of General Counsel of NASA is reminded that as Government attorneys they have a special obligation to instruct NASA staff to comply with applicable Federal law and regulations.

(b) BIENNIAL ETHICS TRAINING FOR COUNSEL.—All NASA counsel shall be required to receive ethics training in the legal obligations of Government attorneys on a biennial basis.

(c) CERTIFICATION OF TRAINING.—Certification of participation in such a program shall be included in each counsel's personnel record.

(d) DESIGNATED ETHICS OFFICER.—The General Counsel of NASA may not serve as NASA's designated ethics officer.

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